

PATENT

AMENDMENTS TO THE CLAIMS

Following is a complete set of claims as amended with this Response. This complete set of claims includes new claim 36.

1. (Original) An implantable cardiac device having memory and a processor, the cardiac device being programmed to promote intrinsic rhythm when a patient transitions from a comparatively less upright posture to a comparatively more upright posture.

2. (Original) An implantable cardiac device as recited in claim 1, wherein the patient transitions from a rest state to a non-rest state.

3. (Original) An implantable cardiac device as recited in claim 1, wherein the patient transitions from a supine position to an upright position.

4. (Original) An implantable cardiac device comprising:
sensing circuitry to sense when a patient, who is at rest, experiences a condition indicative of non-rest; and
an orthostatic rate inhibitor to disable, for a programmable duration of time, increased pacing responsive to the sensed condition if the patient's heart is in intrinsic rhythm.

5. (Original) An implantable cardiac device as recited in claim 4, wherein the sensing circuitry comprises an activity sensor to sense a patient's activity to determine whether the patient is at rest.

PATENT

6. (Original) An implantable cardiac device as recited in claim 4, wherein the sensing circuitry comprises an accelerometer that is used to determine whether the patient is at rest.

7. (Original) An implantable cardiac device as recited in claim 6, wherein the accelerometer comprises a 1D accelerometer.

8. (Original) An implantable cardiac device as recited in claim 6, wherein the accelerometer comprises a 2D accelerometer.

9. (Original) An implantable cardiac device as recited in claim 6, wherein the accelerometer comprises a 3D accelerometer.

10. (Original) An implantable cardiac device as recited in claim 4, wherein the sensing circuitry is configured to sense a respiration-related signal.

11. (Original) An implantable cardiac device as recited in claim 4, wherein the increased pacing is intended to counter symptoms indicative of orthostatic hypotension caused by the patient transitioning from a less upright posture to a more upright posture.

12. (Original) An implantable cardiac device as recited in claim 4, wherein the orthostatic rate inhibitor allows for increased pacing following the programmed duration of time.

PATENT

13. (Original) An implantable cardiac device as recited in claim 4, wherein the orthostatic rate inhibitor does not disable increased pacing if the patient's heart is not in intrinsic rhythm.

14. (Original) An implantable cardiac device as recited in claim 4, further comprising a response algorithm designed to counter effects of orthostatic hypotension, the response algorithm being invoked if patient's heart is not in intrinsic rhythm.

15. (Original) An implantable cardiac device comprising:
circuitry to sense whether a patient is in intrinsic rhythm when transitioning from a less upright posture to a more upright posture; and
a processor to promote intrinsic rhythm of the patient's heart by:

(i) in an event that the circuitry senses the patient is not in intrinsic rhythm, applying increased pacing to counter effects of orthostatic hypotension caused by the transition from the less upright posture to the more upright posture; and

(ii) in an event that the circuitry senses the patient is in intrinsic rhythm, disabling increased pacing for a programmed duration.

16. (Original) An implantable cardiac device as recited in claim 15, wherein the circuitry comprises at least one of an activity sensor, an accelerometer, and a respiration sensor to sense the condition indicative of non-reset.

17. (Original) An implantable cardiac device as recited in claim 15, wherein the programmed duration is approximately 5-120 seconds.

PATENT

18. (Original) An implantable cardiac device as recited in claim 15, wherein the increased pacing is applied according to an orthostatic response algorithm.

19. (Original) An implantable cardiac device as recited in claim 15, wherein the processor applies increased pacing after the programmed duration expires.

20. (Original) An implantable cardiac device comprising:
detection means for detecting whether a patient is in intrinsic rhythm when transitioning from a first posture to a second posture, where the second posture is more upright than the first posture; and
responsive to the transition in posture, compensation means for temporarily disabling, for a programmed duration, application of increased pacing to counter effects of orthostatic hypotension if the patient is in intrinsic rhythm and subsequently applying, after expiration of the programmed duration, a pacing therapy.

21. (Original) An implantable cardiac device as recited in claim 20, wherein the programmed duration is approximately 5-120 seconds.

22. (Original) An implantable cardiac device as recited in claim 20, wherein the compensation means applies a pacing therapy that includes increased pacing.

23. (Original) An implantable cardiac device as recited in claim 20, wherein the compensation means applies a pacing therapy that includes decreased pacing.

24. (Original) An implantable cardiac device as recited in claim 20, wherein the compensation means applies increased pacing without delay if the patient is not in intrinsic rhythm.

PATENT

25. (Original) An implantable cardiac device having a memory and a processor, the cardiac device being programmed to perform tasks comprising countering orthostatic hypotension by disabling, for a programmed duration, application of increased pacing to a patient who is in intrinsic rhythm when transitioning from a first posture to a second posture that is more upright than the first posture.

26. (Original) An implantable and programmable cardiac device as recited in claim 25, further programmed to perform tasks comprising subsequently applying the increased pacing after the programmed duration lapses.

27. (Original) A method implemented by an implantable cardiac device, comprising:
sensing when a patient transitions from a less upright posture to a more upright posture; and
disabling increased pacing responsive to the transition if the patient's heart is in intrinsic rhythm.

28. (Original) A method as recited in claim 27, wherein the sensing comprises monitoring at least one of a respiration-related parameter, an activity variance, or a position-related parameter.

29. (Original) A method as recited in claim 27, wherein the sensing comprises determining when the patient, who is at rest, exhibits indicia of non-rest.

PATENT

30. (Original) A method as recited in claim 27, wherein said disabling is for a programmed duration, and further comprising administering increased pacing after expiration of the programmed duration.

31. (Original) A method as recited in claim 27, wherein said disabling is for a programmed duration, and further comprising administering decreased pacing after expiration of the programmed duration.

32. (Original) A method comprising:
when a patient is at rest, determining whether the patient's heart is in intrinsic rhythm;
detecting a condition indicative of non-rest;
if the patient's heart is not in intrinsic rhythm, administering increased pacing upon detection of the condition to counter effects of orthostatic hypotension; and
if the patient's heart is in intrinsic rhythm, disabling administration of the increased pacing for a programmed duration.

33. (Original) A method as recited in claim 32, wherein the detecting comprises monitoring the patient's position.

34. (Original) A method as recited in claim 32, wherein the detecting comprises monitoring patient activity.

35. (Original) A method as recited in claim 32, further comprising subsequently increasing pacing after the programmed duration expires.

PATENT

36. (New) An implantable cardiac device as recited in claim 1, further comprising an orthostatic rate inhibitor to disable, for a programmable duration of time, increased pacing responsive when a patient transitions from the comparatively less upright posture to the comparatively more upright posture if the patient's heart is in intrinsic rhythm.